Enterprise Technical Reference Model – Version 1.0
Effective Date: January 13, 2004

VISION

The Enterprise Technical Reference Model (ETRM) provides a framework used to identify the standards, specifications and technologies that support the Commonwealth's computing environment. Adopting a consistent framework against which agencies' information technology development efforts can be reviewed and validated will further the following enterprise goals:

- Ease of integration of applications, application services and data to enable inter-agency collaboration and sharing.
- Increase level of application interoperability within the Commonwealth, with other states and municipalities, and with the Federal government.
- Better responsiveness to changing business needs and rapidly evolving information technologies.
- Faster deployment of new applications.
- Efficient sharing and re-use of current information technology assets.
- Expand the consideration of possible alternatives as part of a best value evaluation of potential information technology solutions.
- Reduce the level of resources and costs required to develop, support and maintain government applications.
- Enable the consolidation of the state's information technology infrastructure to reduce costs, improve service levels, and increase operational flexibility across the enterprise.

TARGET STATE

Implementation of the ETRM will result in a Service Oriented Architecture for the Commonwealth that uses open standards solutions where appropriate to construct and deliver online government services. Agencies are expected to migrate towards compliance with the ETRM as they consider new information technology investments or make major enhancements/replacement to existing systems.

MODEL AREAS

The ETRM specifies standards, specifications and technologies for each layer or area of the Service Oriented Architecture:

- Service Access and Delivery

  Includes specifications for access channels and delivery mechanisms

- Security

  Includes specifications for ensuring the confidentiality, availability and integrity of applications and information

- Component Framework

  Includes specifications for building, deploying and exchanging service components

- Service Interface and Integration

  Includes specifications for internal and external interfaces between application components as well as interfaces and integration with back office/legacy systems

- Data Management

  Includes specifications for data definitions and classification, data repositories and storage, and data schemas and taxonomy

- Service Platform and Infrastructure

  Includes specifications for infrastructure capabilities and hardware requirements to support the construction, maintenance and availability of application components.

Version 1.0 of the ETRM provides as a first step a set of open standards detailed below that are related to the Service Access and Delivery, Component Framework and Service Interface and Integration model areas. Subsequent versions of the ETRM will provide more detailed specifications for these model areas as well as address in detail the Shared Services, Data Services and Service Platform and Infrastructure model areas not covered in Version 1.0.

STANDARDS

Model Area	Standards	Impact
Service Access and Delivery Service transport	**TCP/IP –** Transmission Control Protocol / Internet Protocol **FTP –** File Transfer Protocol **LDAP-** Lightweight Directory Access Protocol	Standardizes the way information is sent between network entities
Component Framework Presentation/Interface	**HTML –** Hypertext Markup Language **XML** – Extensible Markup Language **HTTP** – Hypertext Transport Protocol **HTTPS** – Secure Hypertext Transport Protocol	Standardizes the way information is exchanged between applications.

Model Area	Standards	Impact
Service Interface and Integration Service discovery and description	**WSDL –** Web Services Description Language **UDDI –** Universal Description, Discovery and Integration	Standardizes on the way Web services are described and discovered
Service Interface and Integration Interoperability	**SOAP -** Simple Object Access Protocol	Standardizes the way interoperability between different software applications is achieved